

CLAIMS

Sub C21
22. An integrated circuit package separator for separating a plurality of integrated circuit packages from one another, the integrated circuit packages being provided as integrated circuit chip components joined to a board, the separating including cutting the board, the separator comprising:

a panel;
a plurality of blocks over the panel, the blocks having upper surfaces and being configured to support the board while leaving the integrated circuit chip components extending between the block upper surfaces and the panel; and
a cutting mechanism configured to cut the board while the board is supported on the blocks and to thereby separate the integrated circuit packages from one another.

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23. The separator of claim 22 wherein the panel is fastened to the support.

24. The separator of claim 22 wherein components have a thickness and the blocks have a thickness about equal to that of the components.

25. The separator of claim 22 wherein at least some of the components have a common thickness and the blocks have a thickness about equal to said common thickness.

26. The separator of claim 22 wherein the blocks are in a one-to-one correspondence with the integrated circuit packages on the board.

27. The separator of claim 22 comprising more than one panel over the support, each panel having blocks associated therewith.

28. The separator of claim 27 wherein the each of the panels and blocks associated therewith is a panel and block assembly, the panel and block assemblies all being identical to one another.

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29. The separator of claim 22 wherein the blocks are fastened to the panel.

30. The separator of claim 22 wherein the blocks are one-piece with the panel.

31. The separator of claim 22 further comprising pins extending upwardly from beneath the panel to beyond an upper surface of the panel, the pins configured to extend into the board and retain the board over the panel.

32. The separator of claim 31 wherein the pins do not extend through the panel.

33. The separator of claim 31 further comprising an actuator beneath the panel and configured to vertically displace the panel.

34. The separator of claim 33 wherein the actuator is pneumatically powered.